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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/614,604  | 07/07/2003  | Naomi M. Jenkins     | 2000.107500/TT5487  | 7792             |
| 23720   | 7590        | 01/07/2009           |                     |                  |
| WILLIAMS, MORGAN & AMERSON<br>10333 RICHMOND, SUITE 1100<br>HOUSTON, TX 77042 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| VO, HEN XUAN  |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/614,604

**Applicant(s)**

JENKINS ET AL.

**Examiner**

HIEN X. VO

**Art Unit**

2863

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18, 20-23 and 25-50 is/are rejected.
- 7) ☒ Claim(s) 19 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 27 objected to because of the following informalities: The claim is incomplete and not ending by a period. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-15, 38-41, 44-50 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. It is not tied to a specific machine nor does it transform underlying subject matter. It would need to identify a processing tool. Merely a processing tool would not appear to be sufficient to constitute a particular apparatus.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 13, 16-18, 20-23, 25-44, 46-48 rejected under 35 U.S.C. 103(a) as being unpatentable over Adams, III et al. (U.S. Patent No. 6,740,534) in view of Allen, Jr. et al. (U.S. Patent No. 7,051,250).

With respect to claims 1, 13, 16, 17, 22, 26, 38, 42, 44, 46 Adams, III et al. disclose a determination of a process flow based upon fault detection analysis including a processing tool to process a batch of workpieces (see e.g. abstract), a process controller operatively coupled to perform a tool state analysis upon said processing tool (see e.g. Fig. 3, item 310) and to perform a metrology routing adjustment process based upon said tool state analysis, said metrology routing adjustment process comprising correlating said tool state analysis to said batch of workpieces and adjusting a metrology routing based upon said correlation (see e.g. Fig. 5, item 510 and col. 6, lines 31-67, Fig.2, item 270). Adams, III et al. do not teach a dynamic metrology routing adjustment process based upon the tool state analysis, the dynamic metrology routing adjustment process further comprises correlating the tool state analysis to the batch of workpieces and adjusting a metrology routing based upon the correlation.

Allen, Jr. et al. disclose a method and apparatus for routing workpieces based upon detecting a fault including a dynamic metrology routing adjustment process based upon the tool state analysis (see e.g. abstract), the dynamic metrology routing adjustment process further comprises correlating the tool state analysis to the batch of workpieces and adjusting a metrology routing based upon the correlation (see e.g. Figs. 1-3, ). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify system of Adams, III et al. by the routing

workpieces based upon detecting a fault as taught by Allen, Jr. et al. to overcome and perform separate critical dimension measurement for each pattern formed within a semiconductor device in addition to separate overlay measurement to increased throughput, reduced cost, higher device performance.

With respect to claims 2, 4, 18, 20-21, 23, 25, 39, 40-41, 43, 47-48, Adams, III et al. disclose the invention as claimed including the process step upon the batch of workpieces further comprises performing the process step upon a batch of semiconductor wafers (see e.g. Fig.1), a database unit to store at least one of metrology data, tool state data and the electrical test data (see e.g. Fig. 3. item 340), the tool state analysis upon the processing tool further comprises acquiring tool state data (see e.g. Fig.3, item 320), the tool state data further comprises acquiring at least one of a pressure data, a temperature data, a humidity data, and a gas flow rate data relating to the process step performed upon the workpieces (see e.g. col. 4, lines 64-67).

With respect to claims 26-37, the limitations of these claims have been noted in the rejection above. They are therefore consider rejected as set forth above.

Claims 19, 24, objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

5. For claims 19, 24, the reasons for allowance are a fault detection and classification (FDC) unit operatively coupled to said process controller, said fault

detection and classification unit to perform said fault detection process; a tool health-wafer lot correlation unit operatively coupled to said FDC unit and to said tool state data acquisition unit, said tool health-wafer lot correlation unit to perform a correlation of the tool health relating to said batch of workpieces; and a metrology dispatch unit operatively coupled to said tool health-wafer lot correlation unit, said metrology dispatch unit to adjust a metrology dispatch of a batch of workpieces for metrology analysis.

Applicant's arguments with respect to claims 1-50 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HIEN X. VO whose telephone number is (571)272-2282. The examiner can normally be reached on M-F (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Art Unit: 2863

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hien Vo  
01/05/09

Drew A. Dunn  
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Supervisory Patent Examiner, Art Unit 2863